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09/919,830	08/02/2001	Hiroshi Nakaishi	Q65699	4336

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EXAMINER	
CURS, NATHAN M	
ART UNIT	**PAPER NUMBER**
2633	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,830	NAKAISHI, HIROSHI	
	Examiner	Art Unit	
	Nathan Curs	2633	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 October 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by ITU G.983.1 [1998] (http://crewman.uta.edu/~basu/5347spring2003/PON.pdf).

Regarding claim 1, ITU G.983.1 disclose an ATM-PON (Asynchronous Transfer Mode Passive Optical Network) dual system (page i, Summary section and page 109, Figure IV.2: (c)) providing a reliable service by dualizing intervals between optical couplers and ONUs (Optical Network Units) (page 109, Figure IV.2 and pages 107-110, subsections IV.3.1, IV.3.2 and IV.4), comprising: a control information loading means which loads switch controlling information to a fixed area of a format transmitted and received between an OLT and the ONUs (page 110, subsection IV.4), said control information includes not only industry standard VPI/VI in a cell header but also values of line numbers in a message field of a PLOAM cell (page 41, section 8.3.5.9); and a switch controlling means which switches to each of a VP or a VC on the basis of said switch controlling information (page 9, section 5.5, page 106, section IV.2 and figure IV.1, element VP/VC switch, and page 110, section IV.4); and where switching redirects the transmission of a failing line and does not disturb the transmission to ONUs having satisfactory transmission (page 41, section 8.3.5.8 and page 106, section IV.2 and Figure IV.1, where protection switching at the VP/VC level means switching VPs/VCs in need of protection, which

is different from switching physical lines; as a result, ONUs using non-faulty VPs/VCs are not affected by a protection switch for a faulty VP/VC of another ONU).

Regarding claim 2, ITU G.983.1 discloses the ATM-PON dual system as claimed in claim 1, wherein said switch controlling means is characterized in deciding necessity of switching by referring to K1/K2 byte areas of a PLOAM (Physical Layer OAM) cell for a monitor transmitted and received between the OLT and the ONUs (page 41, section 8.3.5.9 where K1/K2 bytes used for performing switching indicates inherent monitoring of the switching bytes).

Regarding Claim 9, ITU G.983.1 discloses an ATM-PON dual method providing a reliable service, comprising the steps of: dualizing an interval between an optical coupler and an ONU (page 109, Figure IV.2 and pages 107-110, subsections IV.3.1, IV.3.2 and IV.4) and loading switch controlling information to K1/K2 byte areas of a PLOAM cell for a monitor, which is transmitted and received between an OLT and the ONU (page 41, section 8.3.5.9, where K1/K2 bytes for switching indicates inherent monitoring of the switching bytes); and switching a relevant VP or VC on the basis of said switch controlling information (page 9, section 5.5, page 106, section IV.2 and figure IV.1, element VP/VC switch, and page 110, section IV.4). ITU G.983.1 also discloses that the switch controlling information includes values of line numbers (page 41, section 8.3.5.9), and discloses line numbers of 0 and 1 (page 60, section "PST Message" and page 106, Figure IV.1).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITU G.983.1 [1998] (http://crewman.uta.edu/~basu/5347spring2003/PON.pdf).

Regarding claim 5, ITU G.983.1 discloses an ONU, which is used for an ATM-PON, being configured by dualizing the interval between said ONU and an OLT, comprising: two line termination devices which terminate each line at said ONU; a transmitting means which allocates signals from subscribers to said two line termination devices and transmits to said OLT; a receiving means which receives signals transmitted from the OLT at each line termination device; and a selector which selects either one of signals (page 106, section IV.2 and figure IV.1, element VP/VC switch, and page 109, Figure IV.2: (c)). ITU G.983.1 does not explicitly show a selector at the ONU for selection of one of the two signals present on the ONU line termination devices. However, since the system is a "protection switching" system between two lines, it would have been obvious to one of ordinary skill in the art at the time of the invention that the ONU would have a selector to select the appropriate one of the two lines based on the switching information to obtain the active signaling.

Regarding claim 6, ITU G.983.1 discloses the ONU as claimed in claim 5, further comprising a switch deciding means which decides necessity of switching the ONU according to existence of switch controlling information received at each line termination device from the OLT (page 41, section 8.3.5.9 and page 60, section "PST message", and page 106, section IV.2, and figure IV.1; page 107, section IV.3.1; and page 109, Figure IV.2: (c)).

5. Claims 3, 4, 7, 8 and 10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over ITU G.983.1 [1998] (http://crewman.uta.edu/~basu/5347spring2003/PON.pdf) in view of Klink (US Patent No. 5706277).

Regarding Claim 3, ITU G.983.1 disclose an OLT, which is used for an ATM-PON, comprising a frame structuring means uses K1 or K2 byte of a message area within a PLOAM cell (page 41, section 8.3.5.9, page 106, section IV.2 and figure IV.1, element VP/VC switch, and page 110, section IV.4), and a switch requirement transmitting means which requires line switch of ONUs by using K1/K2 bytes (page 41, section 8.3.5.9). ITU G.983.1 discloses that the K1/K2 bytes are used as specified in G.783 for protection switching, but does not explicitly disclose that the K1 or K2 bytes are loaded with SC (Switch Confirmation requirement) signals and SR (Switch Requirement) signals. Klink discloses that ITU-T G.783 teaches the K1/K2 bytes used for protection switching, including a switching process between two terminals where altered K1/K2 bytes must be transmitted three times in succession between the two terminals for coordinating the switching (col. 1, lines 31-38). It would have been obvious to one of ordinary skill in the art at the time of the invention that the three successive K1/K2 transmissions defined in ITU-T G.783, as applicable to ITU G.983.1, would correspond to using a switch confirmation requirement signal, followed by a response to the switch confirmation requirement signal, followed by a switch requirement signal, between the OLT and ONU of the K1/K2 switching bytes of the system of ITU G.983.1, since the K1/K2 protection switching of ITU G.983.1 is defined by ITU-T G.783.

Regarding Claim 4, the combination of ITU G.983.1 and Klink discloses the OLT as claimed in claim 3, comprising: a PLOAM cell transmitter/receiver, a PLOAM cell being used for monitoring and being transmitted and received between the OLT and the ONUs (ITU G.983.1: page 41, section 8.3.5.9 and page 110, section IV.4); a dualized line termination device loading a PST message transmitter/receiver, which loads and divides switch controlling information to K1/K2 byte areas of said PLOAM cell (ITU G.983.1: page 60, section "PST Message", page 107, section IV.3.1 and figure IV.2 and page 41, section 8.3.5.9 and page 110, section IV.4);

and a VP/VC (ITU G.983.1: Virtual Path/Virtual Channel) switch which switches a relevant VP or VC on the basis of said K1/K2 byte information (ITU G.983.1: page 106, section IV.2 and figure IV.1).

Regarding Claim 7, ITU G.983.1 discloses the ONU as claimed in claim 6, and discloses an ONU state table showing the functional behavior of the ONU (page 74, section 8.4.4.2.2 and Table 18), but does not disclose the switching decisions included in the state table. However, considering the teaching Klink described above for claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of ITU G.983.1 with those of Klink, as described above for claim 3, and further it would have been obvious to one of ordinary skill in the art at the time of the invention to then include the switching decisions in the ONU state table, based on the ONU receiving a switch confirmation requirement signal from the OLT, the OLT receiving a switch confirmation requirement response signal from the ONU, and the ONU subsequently receiving a switch requirement signal.

Regarding Claim 8, ITU G.983.1 discloses an ATM-PON dual system including an OLT, which is used for an ATM-PON, having a frame structuring means which load switching signals to unused K1 or K2 byte of a message area within a PLOAM cell, and a switch requirement transmitting means which requires line switch of ONUs by using K1/K2 bytes (page 41, section 8.3.5.9 and page 110, section IV.4), an ONU, which is used for an ATM-PON, being configured by dualizing the interval between said ONU and an OLT, having two line termination devices which terminate each line, a transmitting means which allocates signals from subscribers to said two line termination devices and transmits to said OLT, a receiving means which receives signals transmitted from the OLT at each line termination device (page 107, section IV.3.1 and page 109, fig. IV.2 (c)), and a plurality of optical couplers, being configured with a redundant interval between said OLT and said ONU (page 109 and fig IV.2 (c)), and receiving data at said

ONU transmitted from said OLT, comprising: a switch controlling means which controls switching of said redundant system by using switch controlling information loaded on a fixed place of a frame format transmitted and received between said OLT and said ONU (page 41, section 8.3.5.9 and page 110, section IV.4). ITU G.983.1 does not explicitly show a selector at the ONU for selection of one of the two signals present on the ONU line termination devices. However, since the system is a "protection switching" system between two lines, it would have been obvious to one of ordinary skill in the art at the time of the invention that the ONU would have a selector to select the appropriate one of the two lines based on the switching information to obtain the active signaling. ITU G.983.1 discloses that the K1/K2 bytes are used as specified in G.783 for protection switching, but does not explicitly disclose that the K1 or K2 bytes are loaded with SC (Switch Confirmation requirement) signals and SR (Switch Requirement) signals. Considering the teaching Klink described above for claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of ITU G.983.1 with those of Klink, as described above for claim 3.

Regarding Claim 10, ITU G.983.1 discloses the ATM-PON dual method as claimed in claim 9, and requiring line switch of the ONUs by using said K1/K2 bytes within a PLOAM cell (page 41, section 8.3.5.9). ITU G.983.1 discloses that the K1/K2 bytes are used as specified in G.783 for protection switching, but does not explicitly disclose that unused K1 or K2 bytes are loaded with SC (Switch Confirmation requirement) signals and SR (Switch Requirement) signals. Considering the teaching Klink described above for claim 3, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of ITU G.983.1 with those of Klink, as described above for claim 3.

Regarding Claim 11, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claim 10, comprising the steps of: allocating signals from subscribers

to said two line termination devices at the ONU and transmitting to said OLT (ITU G.983.1: page 106, section IV.2 and fig. IV.1); receiving signals transmitted from said OLT at each line termination device; and selecting signals of said line termination device (ITU G.983.1: page 109, fig. IV.2 (c) and page 110, section IV.4).

Regarding Claim 12, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claim 10, comprising a step of deciding necessity of switching the ONU according to existence of switch controlling information received at each line termination unit from the OLT (ITU G.983.1: page 41, section 8.3.5.9, page 60, section "PST Message" where the PST message with switching information is sent downstream to the ONU).

Regarding Claim 13, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claim 10, and discloses a state table showing the functional behavior of the ONU (ITU G.983.1: page 74, section 8.4.4.2.2 and Table 18), but does not disclose the switching decisions included in the state table. It would have been obvious to one of ordinary skill in the art at the time of the invention to include switching information in the state table of the combination of ITU G.983.1 and Klink as described above for claim 7.

Regarding Claim 14, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claim 10, comprising the steps of: broadcasting a frame containing a PLOAM cell which loads said switch controlling information to all of the ONUs connected to downstream (ITU G.983.1: page 60, section "PST Message" and "Broadcast message to all ONUs" and page 41, section 8.3.5.9); and deciding switch of a system within a relevant ONU according to existence of 0-system/1-system of switch controlling information of a PLOAM cell obtained from a frame by said each ONU (ITU G.983.1: page 41, section 8.3.5.9, page 60, section "PST Message" where Line Number "can be 0 or 1", where the PST message, with the

line identifier, is part of the PLOAM cell sent from OLT to ONU, and used in protection switching).

Regarding Claim 15, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claim 10, comprising the steps of: transmitting a frame containing a PLOAM cell which loads said switch controlling information to a specified ONU connected to downstream; and deciding switch of a system within a relevant ONU according to existence of 0-system/1-system of switch controlling information of a PLOAM cell obtained from a frame by said each ONU (ITU G.983.1: page 41, section 8.3.5.9, page 60, section "PST Message" where Line Number "can be 0 or 1", where the PST message, with the line identifier, is part of the PLOAM cell sent from OLT to ONU, and used in protection switching).

Regarding Claim 16, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claim 10, comprising the steps of: allocating signals from subscribers to said two line termination devices at said ONU and transmitting to said OLT (ITU G.983.1: page 107, section IV.3.1 and page 109, fig. IV.2 (c)); receiving signals broadcasted from said OLT at each line termination device; and selecting signals of said line termination device (ITU G.983.1: page 110, section IV.4).

Regarding Claims 17 and 18, ITU G.983.1 discloses an ATM-PON dual method monitoring status of an interval between an OLT and an ONU by using a PST message, comprising the steps of: transmitting switch signals to an ONU connected to downstream all together (page 41, section 8.3.5.9 and page 60, section "PST message" sent from OLT to ONU, the PST message being a PLOAM cell message and used for switching), in case of detecting a line switching trigger at said OLT (page 106, section IV.2, where the fault detection is the trigger); and switching only a system of an ONU receiving said switching signal and deciding necessity of switching the ONU according to existence of switch controlling information received

from the OLT (page 41, section 8.3.5.9 and page 60, section "PST message", and page 106, section IV.2, and figure IV.1; page 107, section IV.3.1; and page 109, Figure IV.2: (c)). ITU G.983.1 discloses that the K1/K2 bytes are used as specified in G.783 for protection switching, but does not explicitly disclose returning switch confirmation reply signals to the OLT. Klink discloses that ITU-T G.783 teaches the K1/K2 bytes used for protection switching, including a switching process between two terminals where altered K1/K2 bytes must be transmitted three times in succession between the two terminals for coordinating the switching (col. 1, lines 31-38). It would have been obvious to one of ordinary skill in the art at the time of the invention that the three successive K1/K2 transmissions defined in ITU-T G.783, as applicable to ITU G.983.1, would correspond to using a switch confirmation requirement signal, followed by a reply to the switch confirmation requirement signal, followed by a switch requirement signal, between the OLT and ONU of the K1/K2 switching bytes of the system of ITU G.983.1, since the K1/K2 protection switching of ITU G.983.1 is defined by ITU-T G.783.

Regarding claims 19 and 20, the combination of ITU G.983.1 and Klink discloses the ATM-PON dual method as claimed in claims 17 and 18, characterized in that said ATM-PON comprises a single ONU-based system, and said ONU does not process relevant signals even if switch confirmation requirement signals are received from the OLT (ITU: fig. IV.2(d), where switching signals received from the OLT are inherently irrelevant to the single line ONU).

6. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over ITU G.983.1 [1998] (http://crewman.uta.edu/~basu/5347spring2003/PON.pdf) in view of Harstead et al. ("Harstead") (US Patent No. 6327400).

Regarding Claim 21, ITU G.983.1 discloses an ATM-PON dual method containing optical couplers branching and connecting an OLT and a plurality of ONUs, being configured

with a redundant interval between said ONU and said optical couplers (page 107, section IV.3.1; page 109, Figure IV.2: (c); and page 110, section IV.4), and receiving data at each ONU transmitted from said OLT (page 106, section IV.2 and figure IV.1 and page 107, section IV.3.1 "Type C"). ITU G.983.1 does not disclose switching output lines by an optical switch provided at an output to an ONU side of said optical coupler. Harstead discloses an ATM PON system, including switching output lines by an optical switch provided at an output to an ONU side of an optical coupler (fig. 11 and col. 7, lines 46-62). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the configuration of ITU G.983.1 to switch output lines by an optical switch provided at an output to an ONU side of the optical coupler of ITU G.983.1, in order to provide the benefit of reducing interface redundancy requirements for the protection system, as taught by Harstead.

Response to Arguments

7. Applicant's arguments filed 20 December 2005 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant argues that ITU section 8.3.5.8 teaches deactivation the ONU and that "redirecting transmission" as claimed is patentably distinct from "deactivating". However, the applicant is quoting the section out of context. Considering the full disclosure of section 8.3.5.8, "deactivates the ONU" means deactivating a downstream and an upstream VP/VC, where OLTs and ONUs use VP/VCs for communication at the ATM layer. Considering section IV.2 and figure IV.1 as cited, in light of section 8.3.5.8 disclosing active or inactive communications between OLTs and ONUs based on the VP/VC layer, the protection scheme applies to switching VP/VCs at the VP/VC layer. Considering the broadest reasonable interpretation of ITU, since section 8.3.5.8 describes communication between an OLT and ONU

at the VP/VC level, and describes loss detection at the VP/VC level, switching VP/VCs for protection switching in section IV.2 would mean switching on the basis of a VP/VC between an OLT and an ONU. Figure IV.1 of ITU only shows one ONU, but it clearly applies to a multiple ONU network (in light of fig. IV.2). Therefore the broadest reasonable interpretation of ITU is that protection switching occurs at the VP/VC level for a particular VP/VC between an OLT and a certain ONU, with any other VP/VCs between other ONUs and the OLT being irrelevant to the protection switching of that particular VP/VC. The applicant argues that one of ordinary skill would recognize that different protection schemes are possible and that not disturbing the transmission of satisfactory ONUs is not an inherent component of all protection schemes and that "protection switching" does not infer only affecting the faulty ONU. However, regardless of what is inherent or not to "all protection schemes", one of ordinary skill would recognize that ITU discloses protection switching occurring at the VP/VC level for a specific VP/VC between an ONU and OLT in a network including an OLT and multiple ONUs.

Regarding claim 9, the applicant emphasizes "for a monitor" using italicized text, but it is not clear if the applicant is implying ITU does not disclose K1/K2 bytes "for a monitor". However, as described in the rejection, a disclosure of K1/K2 bytes for switching indicates inherent monitoring of the switching bytes. In addition, the applicant argues that ITU fails to disclose that switching is performed not only on K1/K2 bytes, but also on a line number. However, as disclosed in section 8.3.5.9, the line number information is included in the switching control information, and as disclosed in sections 8.3.5.8 and IV.2 and in fig. IV.1, considered all together, the basis of switching is at the VP/VC level with switching between line 0 and line 1 as shown. Further considering the use of "0" and "1" in figures IV.1 and IV.2, there is no reasonable interpretation of the use of "0" and "1" in these figures other than that one line is used in protection of the other line.

Regarding claims 5, 17, 18 and 21, the applicant argues that ITU only teaches selection at the OLT in a duplex system model. However, section IV.3.1, states that the configuration in fig. IV.2(c) "...doubles not only the OLT side facilities, but also the ONU side. In this configuration, failure at any point can be recovered by switching to the standby facilities". The broadest reasonable interpretation of this disclosure is that switching can occur at either side. Given this disclosure, it would have been obvious to one of ordinary skill in the art at the time of the invention that the ONU would have a selector to select the appropriate one of the two lines in protection switching. The applicant argues that ITU discloses "teaching switching capability to respond to failure at any point, through the VP/VC switch at the OLT". However, appending "through the VP/VC switch at the OLT" to what is stated in section IV.3.1 ("failure at any point") indicates the applicant's interpretation of the section IV.3.1 disclosure. The applicant's interpretation of the disclosure is not the same as the broadest reasonable interpretation of one of ordinary skill in the art. The applicant argues that ITU teaches away from a selector at the ONU; however, the above argument shows that ITU supports the obviousness of a selector at the ONU. With respect to claim 21 specifically, the applicant argues that the combination of ITU and Harstead doesn't disclose an optical switch provided at an output to an ONU side of an optical coupler. However, Harstead fig. 11 as cited, specifically elements 232 as applicable in the combination, are optical switches at an output to an ONU side of an optical coupler, where the coupler in the combination is the "optical splitter" element taught by ITU fig. IV.2(c), the motivation to combine the switches of Harstead with ITU based on the analogous optical couplers of ITU fig. IV.2 and Harstead fig. 11.

Regarding claims 3 and 8, the applicant argues that Klink fails to teach that the switch requirement and switch confirmation signals (which are taught by Klink as cited) are loaded into "unused K1 or K2 bytes". However, ITU section 8.3.5.9 describes the K1 and K2 bytes used as

they are specified in Recommendation G.783 for protection switching, and Klink describes corresponding G.783 use of the K1 and K2 for coordinating the switching process. In order for the K1 and K2 bytes to be used for coordinating the switching process as taught by Klink, they inherently have to be available for use, in other words, unused.

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

9. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of

a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (800) 786-9199.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pairdirect.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600